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| 10/005,824 | 12/03/2001 | Michael Mojaver | 103745-0002 | 9632 |

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NUTTER MCCLENNEN & FISH LLP
WORLD TRADE CENTER WEST
155 SEAPORT BOULEVARD
BOSTON, MA 02210-2604

| EXAMINER | |
|---|---|
| RICHER, AARON M | |

| ART UNIT | PAPER NUMBER |
|---|---|
| 2676 | 11 |

DATE MAILED: 06/10/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/005,824 | MOJAVER ET AL. | |
| | Examiner | Art Unit | |
| | Aaron M Richer | 2676 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *26 March 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-25* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *1-12,17,18 and 24* is/are allowed.

6)☒ Claim(s) *13-16,19-23, and 25* is/are rejected.

7)☒ Claim(s) *21* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *25 April 2002* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

## DETAILED ACTION

### *Response to Arguments*

1. Applicant's arguments filed March 26, 2004 have been fully considered but they are not persuasive. Applicant's arguments with respect to claims 13, 19, and 23 have been considered but are moot in view of the new ground(s) of rejection.

2. Applicant's arguments, see p. 13-14, filed March 26, 2004, with respect to claims 17 and 18 have been fully considered and are persuasive. The rejection of claims 17 and 18 has been withdrawn.

### *Claim Objections*

3. Claim 21 is objected to because of the following informalities: Line 2 of claim 21 recites the phrase "presented on a the first display". This is grammatically incorrect, and it is suggested the phrase be changed to "presented on a first display" to ensure that there are no lack of antecedent basis issues in the claim. Appropriate correction is required.

### *Claim Rejections - 35 USC § 102*

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

5. Claim 25 is rejected under 35 U.S.C. 102(b) as being anticipated by Zimmerman. Zimmerman discloses

an image-capturing device having a wide-angle lens for generating an image of at least a portion of a viewing field associated with said lens (fig. 1),

and a processor coupled to said image-capturing device for generating perspective correction of at least a portion of said image from a vantage point offset from a center of said viewing field (fig. 1; col. 4, lines 6-16; col. 4, lines 45-64; this shows a "pan and tilt" system which shows an image from a vantage point offset from the center of the viewing field).

***.Claim Rejections - 35 USC § 103***

6. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

7. Claims 13-16 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zimmerman (U.S. Patent RE36,207) in view of Manelphe (U.S. Patent 5,077,609) and further in view of Reber (U.S. Patent 5,646,677).

8. As to claim 13, Zimmerman discloses a device for providing a perspective corrected view of at least a portion of a wide angle image, comprising:

an image-capturing device having a fish-eye lens for generating the wide angle image (col. 3, lines 60-64; col. 3, lines 29-36)

a processor coupled to the image capturing device that receives the image (col. 3, lines 29-36),

Zimmerman does not disclose the processor displaying the image and a graphical object associated with the image for selecting a portion thereof, wherein the processor responds to the selection of a portion of the image by generating a perspective corrected view of that portion and replacing said image portion with said corrected view in the display of the image.

Manelphe, however, discloses a "first display means to display a wide-field image" (col. 2, lines 9-20) and "second display means to display the small-field image" (col. 2, lines 9-20). Manelphe further discloses a graphical object to select a portion of the image in the form of "a movable recticle 19, the position of which can be adjusted by means of the manual control device" (col. 3, lines 15-29). It is further shown that Manelphe uses a processor to respond to graphical object selection: "The manual control device 14 has an output connected to an input of the image processor 15, to give it coordinates (x, y) defining the position of the movable recticle 19 within the wide-field image" (col. 3, lines 37-41). Also see Figure 2, elements 16-20 for further disclosure of the graphical object. Manelphe's reason for inventing the system including the graphical object for object selection is to be able to zoom in on an object from a wide view without a special lens: "The system is simpler... since it has no zoom lens or aiming device" (col. 1, lines 61-68; col. 2, line 1). It would have been obvious to one skilled in the art to modify Zimmerman to include a graphical object for object selection in order to zoom in on a specified area without using a zoom lens or other special equipment as taught by Manelphe.

Neither Zimmerman nor Manelphe discloses replacing an image portion with a corrected view in the display of an image. Reber, however, discloses displaying a wide-angle image on a display and correcting a portion based on user input (col. 7, lines 39-61). Because Reber's invention can work with one display, a corrected view of an image portion would have to replace a wide-angle image. The motivation for selecting and replacing a portion of the image is so

viewers can interactively view portions of the Earth (col. 4, lines 22-27). It would have been obvious to one skilled in the art to modify Zimmerman in view of Manelphe to replace an image portion with a corrected view in order to allow viewers to interactively view portions of the Earth as taught by Reber.

9. Claim 14 recites "The device of claim 13, further comprising a user interface module coupled to the graphical object and the processor for effecting the selection of a portion of the image by associating the graphical object with that portion." Manelphe discloses "a movable recticle 19, the position of which can be adjusted by means of the manual control device" (col. 3, lines 15-29). It is further shown that Manelphe uses a processor to respond to graphical object selection: "The manual control device 14 has an output connected to an input of the image processor 15, to give it coordinates (x, y) defining the position of the movable recticle 19 within the wide-field image" (col. 3, lines 37-41).

10. Claim 15 recites "The device of claim 14, wherein the user interface module permits selecting a magnification for viewing the portion of the image selected by the graphical object." Manelphe discloses "image processing means comprising means to provide a signal representing a small-field image, which is a portion of the wide-field image, with an adjustable enlargement and an adjustable position within the wide-field image" (col. 2, lines 9-20).

11. Claim 16 recites "The device of claim 15, wherein the processor corrects the selected portion of the image for perspective distortions in accord with the selected magnification and an angle for viewing a portion of a hemispherical field of view corresponding to the selected image portion from a vantage point offset

from a center of the hemisphere." Zimmerman discloses "image transform processor means... for producing output transform calculation signals according to a combination of said digitized signals, said selected viewing angles and said selected magnification" (col. 8, lines 24-31). Also, Zimmerman discloses a "pan and tilt" system (col. 4, lines 45-64), which shows an image from a vantage point offset from the center of the viewing field.

12. Claim 23 recites "A device for imaging a field of view, comprising an image-capturing device having a fish-eye lens for acquiring a fish-eye image of the field of view". Zimmerman discloses an invention that includes an "image capturing device" (col. 3, lines 60-64) with a "fisheye lens that provides an image of the environment with a 180 degree view" (col. 3, lines 29-36).

Claim 23 further recites "a processor in communication with the image-capturing device". Zimmerman discloses "An image processing system consisting of an X-MAP and Y-MAP processor" (col. 3, lines 29-36).

Claim 23 further recites "a display coupled to the processor for presenting the fish-eye image and a perspective-corrected view of a portion thereof". Zimmerman discloses a "display driver" among other components that "function as a system to select a portion of the input image (fisheye or wide angle) and then mathematically transform the image to provide the proper prospective for output" (col. 4, lines 6-16). Zimmerman's invention goes on to display the output on "a video display device" (col. 3, lines 45-49).

Claim 23 further recites "a graphical object presented on the display in association with a portion of the fish-eye image, said object circumscribing an

area of the display, the processor effecting the presentation of the fish-eye image on the display, and further generating a perspective-corrected view of the portion of the fish-eye image associated with the graphical object, and effecting the display of the perspective-corrected view in an area of the display circumscribed by the graphical object."

Zimmerman does not disclose a graphical object in association with a portion of the fisheye image, nor does Zimmerman disclose a perspective-corrected view of that portion. Manelphe, however, discloses a graphical object to circumscribe and select a portion of the image in the form of "a movable recticle 19, the position of which can be adjusted by means of the manual control device" (col. 3, lines 15-29). It is further shown that Manelphe uses a processor to respond to graphical object selection: "The manual control device 14 has an output connected to an input of the image processor 15, to give it coordinates (x, y) defining the position of the movable recticle 19 within the wide-field image" (col. 3, lines 37-41). Also see Figure 2, elements 16-20 for further disclosure of the graphical object. Manelphe's reason for inventing the system including the graphical object for object selection is to be able to zoom in on an object from a wide view without a special lens: "The system is simpler... since it has no zoom lens or aiming device" (col. 1, lines 61-68; col. 2, line 1). It would have been obvious to one skilled in the art to modify Zimmerman to include a graphical object for object selection in order to zoom in on a specified area without using a zoom lens or other special equipment as taught by Manelphe.

Neither Zimmerman nor Manelphe discloses effecting the display of the perspective-corrected view in an area of the display circumscribed by the graphical object. Reber, however, discloses displaying a wide-angle image on a display and correcting a portion based on user input (col. 7, lines 39-61). Because Reber's invention can work with one display, a corrected view of an image portion would have to replace a wide-angle image. The motivation for selecting and replacing a portion of the image is so viewers can interactively view portions of the Earth (col. 4, lines 22-27). It would have been obvious to one skilled in the art to modify Zimmerman in view of Manelphe to replace an image portion with a corrected view in order to allow viewers to interactively view portions of the Earth as taught by Reber.

13. Claims 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zimmerman in view of Richardson (U.S. Patent 5,489,940).

14. Claim 19 recites "A device for imaging a field of view, comprising: an image-capturing device having a fish-eye lens for generating a wide angle image of the field of view". Zimmerman discloses an invention that includes an "image capturing device" (col. 3, lines 60-64) with a "fisheye lens that provides an image of the environment with a 180 degree view" (col. 3, lines 29-36).

Claim 19 further recites "a processor coupled to the image-capturing device to receive the image". Zimmerman discloses "An image processing system consisting of an X-MAP and Y-MAP processor" (col. 3, lines 29-36).

Claim 19 further recites "the processor displaying the wide-angle image and further selecting a portion of the image, based on a pre-programmed set of

rules, the processor generating a perspective corrected view of the selected portion from a vantage point offset from a center of a viewing hemisphere associated with said fish-eye lens and displaying the perspective-corrected view." Zimmerman discloses a "display driver" among other components that "function as a system to select a portion of the input image (fisheye or wide angle) and then mathematically transform the image to provide the proper prospective for output" (col. 4, lines 6-16). Zimmerman's invention goes on to display the output on "a video display device" (col. 3, lines 45-49). Also, Zimmerman discloses a "pan and tilt" system (col. 4, lines 45-64), which shows an image from a vantage point offset from the center of the viewing field. Zimmerman does not disclose selecting a portion of an image based on a pre-programmed set of rules.

Richardson, however, discloses a method of inputting and correcting a panoramic image that includes an "image processing unit 74 [that] includes image recognition and tracking capabilities. A particular image could be recognized and its region in the image automatically selected" (col. 4, lines 40-45). Tracking and recognizing an image is based on certain rules about what an image is allowed and not allowed to contain. Richardson's method automatically selects certain regions for display based on these rules. It would have been obvious to one skilled in the art to modify Zimmerman to select certain images based on rules in order to select an image for display without a user input and add image tracking abilities as taught by Richardson.

15. Claim 20 recites "The device of claim 19, further comprising a buffer for storing the set of rules." Richardson discloses an "image processing unit 74

[that] includes image recognition and tracking capabilities" (col. 4, lines 40-45). It is implied that an image processing unit that included these capabilities would need to use a buffer or other memory to store rules for tracking these images.

16. Claims 21-22, as best understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over Zimmerman in view of Richardson as applied to claim 20 above, and further in view of Manelphe.

17. Claim 21 recites "The device of claim 19, wherein the processor identifies the selected portion on the image presented on the first display." Zimmerman in view of Richardson obviates the device of claim 19. Neither Zimmerman nor Richardson discloses identification of the selected portion on the image on the display. Manelphe, however, discloses a graphical object for identification in the form of "a movable recticle 19" (col. 3, lines 15-29). Also see Figure 2, elements 16-20 of Manelphe for further disclosure of the graphical object. This graphical object correlates the two images by identifying the selected portion of the wide-angle image displayed in the small-field image. It would have been obvious to one skilled in the art to modify Zimmerman to include a graphical object for identification in order to correlate the small-field image to the wide-field image as taught by Manelphe.

18. Claim 22 recites "The device of claim 21, wherein the processor displays a graphical object on the displayed wide-angle image to identify a portion of the image corresponding to the perspective-corrected view." Manelphe discloses a graphical object for identification in the form of "a movable recticle 19" (col. 3, lines 15-29). Also see Figure 2, elements 16-20 of Manelphe for further

disclosure of the graphical object. This graphical object correlates the two images by identifying the selected portion of the wide-angle image displayed in the small-field image.

***Conclusion***

19. Claims 1-12, 17-18, and 24 are allowed.

20. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

21. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aaron M Richer whose telephone number is (703) 305-5825. The examiner can normally be reached on weekdays from 8:30AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Bella can be reached on (703) 308-6829. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AMR
6/9/04

Matthew C. Bella

MATTHEW C. BELLA
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600